CLAIMS

Please amend the claims as follows. This listing of claims will replace all prior listings.

6. (Currently Amended) A method of manufacturing a non-porous membrane device comprising the steps of:

forming a first membrane layer in a first coating process by drying a first solution in a first drying process;

forming a second membrane layer on top of the first membrane layer in a second coating process by drying a second solution in a second drying process, the second membrane layer and the first membrane layer form a non-porous membrane; and

disposing said non-porous membrane in a fluid separating device, wherein said fluid separating device is a fuel deoxygenator of an aircraft.

7. (Previously Presented) The method as recited in claim 6, including the step of disposing the non-porous membrane on a substrate.

8. (Previously Presented) The method as recited in claim 6, including the step of forming a partially dissolved portion of the first membrane layer by partially dissolving the first membrane layer with the second solution so that the second membrane layer forms a single homogenous non-porous membrane with the first membrane layer after the second drying process.

9. (Previously Presented) The method as recited in claim 6, wherein the first solution comprises an amorphous glassy perfluorodioxole copolymer dissolved in a fluorosolvent that has a boiling point between 60°C and 110°C.

10. (Previously Presented) The method as recited in claim 6, wherein the second solution comprises an amorphous glassy perfluorodioxole copolymer dissolved in a fluorosolvent that has a boiling point between about 60°C and about 110°C.

11. (Previously Presented) The method as recited in claim 6, wherein said first drying process includes the step of heating to between about 130°C and about 150°C for between 10 minutes and about 30 minutes.

12. (Previously Presented) The method as recited in claim 6, wherein said second drying process includes the step of heating to between about 130°C and about 150°C for between 10 minutes and about 30 minutes.

13. (Previously Presented) The method as recited in claim 6, wherein said first coating process includes rolling said first solution onto said substrate.

14. (Previously Presented) The method as recited in claim 6, wherein said second coating process includes rolling said second solution on top of said first membrane layer after said first drying process.

15. - 22. (Canceled)

23. (Previously Presented) The method as recited in claim 6, further comprising forming the first membrane layer with a thickness of about one micrometer and forming the second membrane layer with a thickness of about one micrometer.

24. (Previously Presented) The method as recited in claim 6, wherein the first drying process occurs before the second coating process.

25. (Previously Presented) The method as recited in claim 6, further comprising forming a seamless boundary between the first membrane layer having a thickness of about one micrometer and the second membrane layer having a thickness of about one micrometer.

26. (Previously Presented) The method as recited in claim 6, wherein the first solution and the second solution are equivalent to form the first membrane layer and the second membrane layer of a single type of polymer.